

REMARKS

The Amendments

Claims 7, 8, 13 and 17 are amended to correct obvious minor informalities. The amendments do not narrow the scope of the claims and/or were not made for reasons related to patentability. The amendments should not be interpreted as an acquiescence to any objection or rejection made in this application.

To the extent that the amendments avoid the prior art or for other reasons related to patentability, competitors are warned that the amendments are not intended to and do not limit the scope of equivalents which may be asserted on subject matter outside the literal scope of any patented claims but not anticipated or rendered obvious by the prior art or otherwise unpatentable to applicants. Applicants reserve the right to file one or more continuing and/or divisional applications directed to any subject matter disclosed in the application which has been canceled by any of the above amendments.

The Restriction Requirement

It would appear from the Office Action that applicants' previous traversal of the restriction requirement was not correctly understood and that the restriction continues to be maintained for reasons unsupported by the law and PTO practice.

First, applicants did not traverse on the grounds that the restricted claims did not require the particulars of claim 1. Quite the opposite. The restricted claims are dependent upon claim 1 and most certainly do require the particulars of claim 1. For example, the combination claim 14 requires that the polarizer, etc., contain a compound as particularly set forth by claim 1. That claims 14-16 also require other elements, such as polarizer elements,

does not change the fact that it still requires the compound defined by claim 1. It is for this reason that the restriction is not proper.

Because the restricted groups are related to the elected group as combination-subcombination, the standard for requiring restriction is as follows; see M.P.E.P. § 806.05(c), emphasis added:

In order to establish that combination and subcombination inventions are distinct, two-way distinctness must be demonstrated. To support a requirement for restriction, both two-way distinctness and reasons for insisting on restriction are necessary, i.e. separate classification, status, or field of search. See MPEP § 808.02. If it can be shown that a combination, as claimed

(1) does not require the particulars of the subcombination as claimed for patentability (to show novelty and unobviousness), **and**

(2) the subcombination can be shown to have utility either by itself or in other and different relations, the inventions are distinct. When these factors cannot be shown, such inventions are not distinct.

Thus, even if the subcombination, i.e., the compound of claim 1, has another utility, the requirement for two-way distinctness is not established herein because the combination does require the particulars of the subcombination. The compositions, by definition, require the exact compounds of the same scope as the subcombination claims, because they are dependent claims. The subcombination-compounds are an essential distinguishing feature of the combination-compositions.

It is respectfully submitted that when the relationship between the claimed subject matter is properly characterized and the law properly applied there is no basis for restriction herein. Thus, the restriction requirement should be withdrawn.

The Rejection Under 35 U.S.C. § 112, First Paragraph

The rejection of claims 1-10 under 35 U.S.C. § 112, first paragraph, is respectfully traversed. It is alleged in the Office Action that the specification does not provide sufficient

information to allow one of ordinary skill in the art to practice the invention without undue experimentation.

Legally, the burden lies with the PTO to prove lack of an enabling disclosure. Even when the standards of In re Wands are applied, the PTO has the burden of providing evidence or objective reasoning substantiating the allegation that the enabling disclosure is not commensurate in scope with the claims. See, e.g., In re Marzocchi et al., 169 USPQ 367 (CCPA 1971), stating:

“.. a specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented *must* be taken as in compliance with the enabling requirement of the first paragraph of § 112 *unless* there is reason to doubt the objective truth of the statements contained therein.”,

and further,

“..it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement.” (emphasis original).

The instant disclosure does contain a description of making the compounds which corresponds to the scope of the claims. Thus, at page 20, lines 23-29, the specification states that:

“The inventive compounds of formula I can be synthesized according to or in analogy to methods which are known per se and which are described in standard works of organic chemistry such as ...”

Then, in the following 7 pages it describes 16 generally applicable schemes for making compounds within the claimed scope. Additionally, it provides 41 specific examples of preparing particular species within the claimed scope which provide a representative demonstration of how to make various types of compounds within the claimed scope.

The Examiner has pointed to no reasons for why it doubts the accuracy of applicants' statement in the specification that the compounds of formula I can be prepared in a way known to one of ordinary skill in the art, for example, using guidance from the general schemes and specific examples. Nor has any evidence been provided which would shed doubt on the accuracy of applicants' disclosure or give any specific indication that preparing the compounds based on what was known by one of ordinary skill in the art and the guidance given in the specification would require undue experimentation. The only apparent basis alleged for supporting the rejection is that the claim scope is considered very broad. However, this is not a proper basis for rejection under 35 U.S.C. § 112, first paragraph. The breadth of the claim should be limited only by the prior art, of which none has been applied against the instant claims. Further, it is alleged that there are not working examples for every compound within the claimed scope. Again, the law is quite clear that examples of every embodiment are not required; see MPEP § 2164.03 – supported by numerous court decisions – stating:

“For a claimed genus, representative examples together with a statement applicable to the genus as a whole will ordinarily be sufficient if one skilled in the art (in view of level of skill, state of the art and the information in the specification) would expect the claimed genus could be used in that manner without undue experimentation. Proof of enablement will be required for other members of the claimed genus only where adequate reasons are advanced by the examiner to establish that a person skilled in the art could not use the genus as a whole without undue experimentation.”

The 16 general schemes and 41 specific examples are certainly a representative showing for making compounds of the entire scope of the claimed genus and no adequate reasons are advanced by the Examiner to establish that a person skilled in the art could not use the genus as a whole without undue experimentation.

As for enablement for using the compounds, analogous reasoning applies and the specification provides adequate description of the use of the whole scope of claimed compounds. See, e.g., page 4, line 5 to page 5, line 22, and page 7, lines 6-24, of the specification.

The above arguments for enablement apply to each of the separate allegations for non-enablement alleged in the Office Action, i.e., as to the terms polymerizable group, mesogenic group, non-polymerizable group, and other claim terms. Admittedly, these are broad terms but their meaning is known in the art and the specification provides representative examples thereof. Based on the specification and the knowledge of one of ordinary skill in the art, one of ordinary skill in the art could practice the entire scope of the instant claimed invention by carrying out only routine, i.e., not undue, experimentation. The Wands standard sets forth non-enablement where there is "undue" experimentation; it does not require that no experimentation at all be necessary to carry out the invention.

For all of the above reasons, it is urged that the rejection under 35 U.S.C. § 112, first paragraph, should be withdrawn.

The Rejection Under 35 U.S.C. § 112, Second Paragraph

The rejection of claims 1-10 under 35 U.S.C. § 112, second paragraph, is respectfully traversed. The rejection is based on the term "a chiral or achiral alkyl radical." This term, however, is not indefinite. The term encompasses such chiral radicals regardless of their configuration, i.e., including S or R configuration radicals. One of ordinary skill in the art clearly knows what is meant by a chiral or an achiral radical and knows the metes and bounds of such term. Thus, the term is not indefinite and the rejection should be withdrawn.

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Reply to Office Action of February 11, 2003


The Indication of Allowability

The indication of allowability of the elected species over the prior art is respectfully acknowledged. Because it is believed that the claims are otherwise allowable, in view of the above arguments, the search and examination should be extended to additional species and, should such species be found allowable, to the entire claimed scope.

It is submitted that the claims are in condition for allowance. However, the Examiner is kindly invited to contact the undersigned to discuss any unresolved matters.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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VERSION WITH MARKINGS SHOWING CHANGES MADE

IN THE CLAIMS:

7. (Amended) A multireactive polymerizable mesogenic compound according to claim

1, wherein R^2 is a group of one of the following formulae

-X-alkyl-CHP¹-CH₂-CH₂P² Ia

-X-alkyl-C(CH₂P¹)(CH₂P²)-CH₂P³ Ib

-X-alkyl-CHP¹CHP²-CH₂P³ Ic

-X-alkyl-C(CH₂P¹)(CH₂P²)-C_aH_{2a+1} Id

-X-alkyl-CHP¹-CH₂P² Ie

-X-alkyl-CHP¹P² If

-X-alkyl-CP¹P²-C_aH_{2a+1} Ig

-X-alkyl-C(CH₂P¹)(CH₂P²)-CH₂OCH₂-C(CH₂P³)(CH₂P⁴)CH₂P⁵ Ih

-X-alkyl-CH((CH₂)_aP¹)((CH₂)_bP²) Ii

-X-alkyl-CHP¹CHP²-C_aH_{2a+1} Ik

wherein

alkyl is straight-chain or branched alkylene with θ 1 to 12 C atoms which may be unsubstituted, mono- or polysubstituted by halogen or CN, ~~it being also possible for one or more non-adjacent CH₂ groups to be~~ optionally being replaced, in each case independently from one another, by -O-, -S-, -NH-, -N(CH₃)-, -CO-, -COO-, -OCO-, -OCO-O-, -S-CO-, -CO-S-, -CH=CH- or -C \equiv C- in such a manner that oxygen atoms are not linked directly to one another,

a and b are identical or different integers from 0 to 6,

X has one of the meanings of given in formula I, and

P¹ to P⁵ independently have one of the meanings of P given in formula I.

8. (Amended) A multireactive polymerizable mesogenic compound according to claim 5, wherein R² is a group of one of the following formulae

-X-alkyl-CHP¹-CH₂-CH₂P² Ia

-X-alkyl-C(CH₂P¹)(CH₂P²)-CH₂P³ Ib

-X-alkyl-CHP¹CHP²-CH₂P³ Ic

-X-alkyl-C(CH₂P¹)(CH₂P²)-C_aH_{2a+1} Id

-X-alkyl-CHP¹-CH₂P² Ie

-X-alkyl-CHP¹P² If

-X-alkyl-CP¹P²-C_aH_{2a+1} Ig

-X-alkyl-C(CH₂P¹)(CH₂P²)-CH₂OCH₂-C(CH₂P³)(CH₂P⁴)CH₂P⁵ Ih

-X-alkyl-CH((CH₂)_aP¹)((CH₂)_bP²) Ii

-X-alkyl-CHP¹CHP²-C_aH_{2a+1} Ik

wherein

alkyl is straight-chain or branched alkylene with θ 1 to 12 C atoms which may be unsubstituted, mono- or polysubstituted by halogen or CN, it ~~being also possible for~~ one or more non-adjacent CH₂ groups ~~to be~~ optionally being replaced, in each case independently from one another, by -O-, -S-, -NH-, -N(CH₃)-, -CO-, -COO-, -OCO-, -OCO-O-, -S-CO-, -CO-S-, -CH=CH- or -C \equiv C- in such a manner that oxygen atoms are not linked directly to one another,

a and b are identical or different integers from 0 to 6,

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X has one of the meanings of given in formula I, and

P¹ to P⁵ independently have one of the meanings of P given in formula I.

9. (Amended) A multireactive polymerizable mesogenic compound according to claim 7, wherein alkyl is $-(CH_2)_c-$, with c being an integer from 1 to 12.
13. (Amended) A linear or crosslinked polymer obtained by polymerizing a polymerizable mesogenic ~~compound~~ composition according to claim 11.